

Tier1

BloombergNEF



ISO 9001
ISO 45001

ISO 14001
OHSAS 18001

SA 8000



186.8R TOPCON MONO

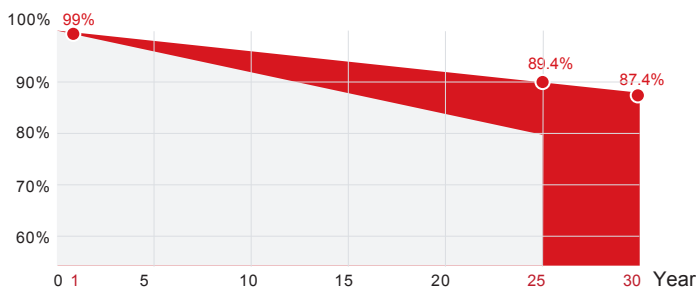
SP xxx-N120R10

480~505W

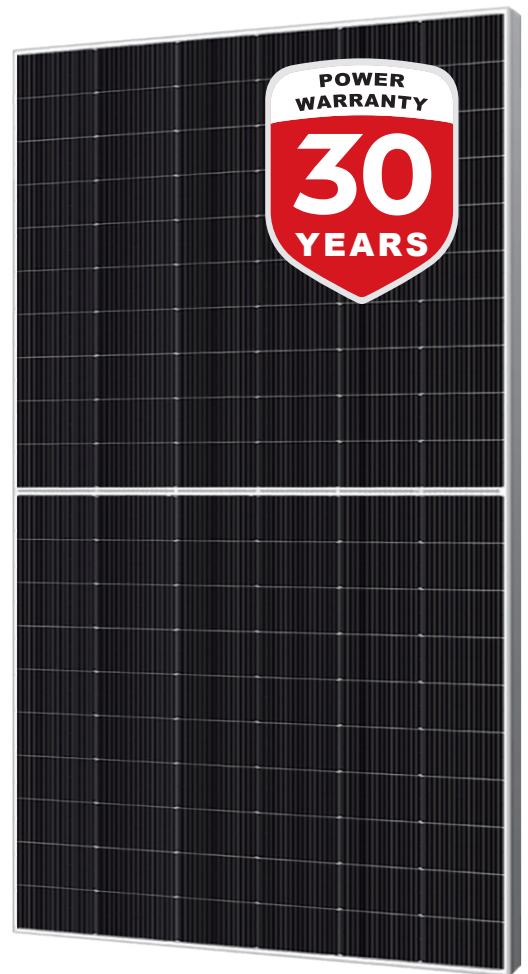
- Silver frame
- Black frame
- Full black

25 Yr quality guarantee | 30 Yr power warranty

■ SUNPRO TOPCon module (Additional value from 30-year warranty)
 ■ Common module



*SUNPRO Standard tiered warranty



WARRANTY & GUARANTEE

Linear output power guarantee
 25 years: 89.4% power output
 30 years: 87.4% power output

WITHSTAND STRONG

Snow load 5400Pa
 Wind load 2400Pa

PID RESISTANCE

Power positive tolerance 0~+5W.
 The attenuation probability of PID phenomenon is minimized through battery production technology optimization and material control

R&D AND PRODUCTION

Advanced production line. The leading solar cell cutting process and multi busbar design with SUNPRO Technology.

HIGH EFFICIENCY

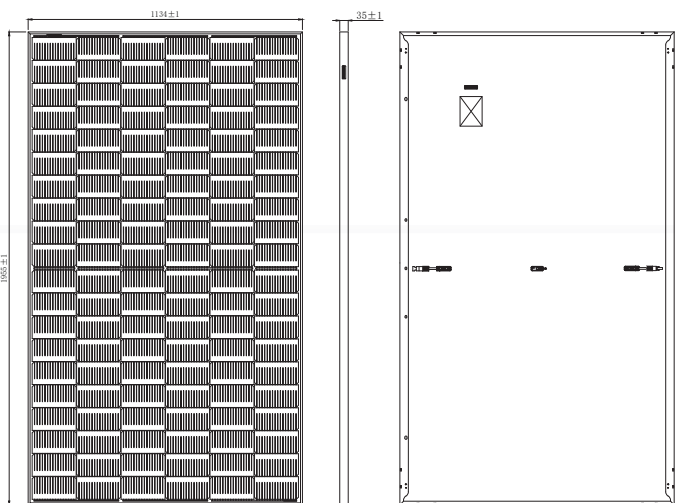
N-type , Components have better reliability and lower LID/LETID attenuation. Efficiency can reach 22.78%. Excellent low light performance. Higher power output under the conditions of haze, overcast, etc.

Electrical parameters at standard test conditions (STC:AM=1.5, 1000W/m², Cells Temperature 25°C)

Typical type

	480W	485W	490W	495W	500W	505W
Max power(Pmax)	480	485	490	495	500	505
Max power voltage(Vmp)	35.88	36.04	36.19	36.35	36.53	36.68
Max power current(Imp)	13.38	13.46	13.54	13.62	13.69	13.77
Open circuit voltage(Voc)	43.29	43.43	43.57	43.72	43.87	44.02
Short circuit current(Isc)	13.94	14.02	14.09	14.17	14.25	14.33
Module Efficiency(%)	21.65	21.88	22.10	22.33	22.55	22.78
Max system voltage	DC 1500V (TÜV)					
Maximum Series Fuse Rating	25A					

DIMENSIONS AND STRUCTURE



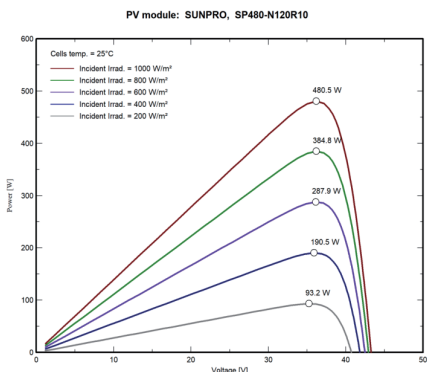
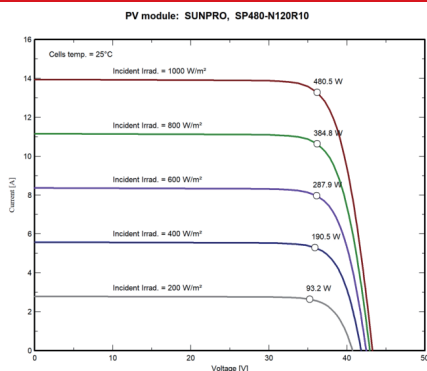
Electrical parameters at NMOT test conditions (Irradiance 800W/m², Ambient Temperature 20°C, AM 1.5, Wind Speed 1m/s)

Typical type	480W	485W	490W	495W	500W	505W
Max power(Pmax)	362.2	366.2	370	374	377.8	381.8
Max power voltage(Vmp)	34	34.2	34.4	34.5	34.7	34.8
Max power current(Imp)	10.64	10.71	10.77	10.83	10.90	10.96
Open circuit voltage(Voc)	40.9	41	41.2	41.3	41.5	41.70
Short circuit current(Isc)	11.24	11.3	11.36	11.42	11.48	11.55

Mechanical Data

Dimensions	1955x1134x35mm
Weight	23kg
Glass	3.2mm ultra clear embossed tempered coated glass
Output cables	4mm ² , symmetrical lengths 1100mm
Connectors	MC4 compatible IP68
Cell type	N type Mono-Crystalline, 182mm×93.4mm
Number of cells	120cells (Half-Cell)

I-V CHARACTERISTICS AT DIFFERENT IRRADIATION



Temperature Characteristics

Temp.Coeff.of Isc(TK Isc)	0.046%/°C
Temp.Coeff.of Voc(TK Voc)	-0.25%/°C
Temp.Coeff.of Pmax(TK Pmax)	-0.30%/°C
Operating temperature	-40~+85°C
Normal operating cell temperature	45±2°C

Packing Configuration

Container	40'HQ
Pieces per pallet	31
Pallets per container	24
Pieces per container	744

Tests, Certifications and Warranties

Standard tests	IEC 61215, IEC 61730
System certs	ISO 9001, ISO14001, ISO45001
Certifications	TÜV, CE, WEEE
Extreme wind and snow loads testing	Withstand extreme wind(2400 Pascal) and snow loads(5400 Pascal)
Power tolerance	0~+5W
Junction box	IP 68
Warranties	15 years product warranty and 30 years 87.4% of power